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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,946	08/10/2001	Bradley C. Squires	061300-0225	5405

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EXAMINER

BROADHEAD, BRIAN J

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/927,946

**Applicant(s)**

SQUIRES ET AL.

**Examiner**

Brian J. Broadhead

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-10, 23-28, 35-40, 46 and 47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10, 23-28, 37-39, 46 and 47 is/are allowed.
- 6) ☒ Claim(s) 35, 36 and 40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 35, 36, and 40, are rejected under 35 U.S.C. 102(b) as being anticipated by Rado et al., 5508689.

As per claims 36 and 40, Rado et al. discloses determining the desired input and output states of a plurality of input and output devices based on stored IO data on line 30, on column 4; and a plurality of interface modules that collect and distribute data over a network, distribute power, and are throughout the vehicle on lines 44-48, on column 5; the interface modules set the outputs according to the inputs and maintaining IO data by exchanging the IO status between all of the interface modules on lines 35-45, on column 8; broadcasting the IO data and storing it in all the interface modules on lines 41, on column 8; a power source in figure 1 (the battery); a power transmission link (24); a plurality of input devices (20); a plurality of output devices (18); a communication network (26); a plurality of interface modules (16) coupled to the power link and communication link and respective output and input devices via a dedicated link all clearly visible in figure 1; a microprocessor-based control unit (30) with a control program and microprocessor; figure 1 shows the plurality of the interface modules at the front location and rear location and that they are locally disposed to their input and

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output devices; wherein microprocessor-based control unit is an additional interface module capable of serving as master interface module on lines 10-22, on column 6; and wherein plurality of interface control modules are capable of serving as replacements and are dynamically reconfigurable on lines 23-29, on column 6; a respective one of plurality of interface modules includes a respective control program that is executable by a respective microprocessor of each said respective interface module and wherein each said respective interface modules executes said respective control program to control a respective subset of said plurality of output devices based on input status information on lines 39-48, on column 1; a plurality of input and output devices on line 30, on column 4; and a plurality of interface modules that collect data, distribute power, and are throughout the vehicle on lines 44-48, on column 5; it is inherent that the interface modules configure themselves according to where they are located because they are generic modules with various different inputs and outputs connected to them. If they didn't configure themselves there would be no way for the control system to control the vehicle. It is also inherent that the variant modules will configure themselves and the system will configure itself according to what variant modules are installed. The variant modules contain the interface modules and if the configure themselves the variant module has been configured. There must inherently be software that configures these modules. The modules all have microprocessors that run on some type of firmware. Since these are generic modules they must contain the firmware necessary to run any outputs/inputs dependant on where they are installed.

As per claim 35, Rado et al. discloses a power source in figure 1 (the battery); a power transmission link (24); a plurality of input devices (20); a plurality of output devices (18); a communication network (26); a plurality of interface modules (16) coupled to the power link and communication link and respective output and input devices via a dedicated link all clearly visible in figure 1; a microprocessor-based control unit (30) with a control program and microprocessor; figure 1 shows the plurality of the interface modules at the front location and rear location and that they are locally disposed to their input and output devices; wherein microprocessor-based control unit is an additional interface module capable of serving as master interface module on lines 10-22, on column 6; wherein plurality of interface control modules are capable of serving as replacements and are dynamically reconfigurable on lines 23-29, on column 6; a chassis and variant modules, said variant module providing first type of functionality, said variant modules being removable and replaceable with other variant modules to form vehicle with other different types of functionality on line 2 on column 2, and lines 1-8, on column 3; controlling a first and second output device by transmitting an input signal from an input device to a first interface module over a dedicated communication link, transmitting said input from first interface module to a control module, processing input signal and in response generating a first control signal, transmitting control signal to second interface module, transmitting control signal via a second dedicated link to an output device all on lines 15-65, on column 7; and determining based on status of vehicle that output device must be disengaged and causing the device to disengage by transmitting a second control signal from said

control unit to first interface module, transmitting said second control signal from first interface module to second output device by way of third dedicated communication link causing the output status to change status on lines 3-65, on column 8.

***Response to Arguments***

3. Applicant's arguments filed 6-23-04 have been fully considered but they are not persuasive. With respect to claims 35, and 36 it is not convincing that switching a CD player with a tape player is not providing a vehicle with other types of overall functionality. "Overall functionality" is interpreted as a very broad and generic term that would encompass many different things. The overall function of a vehicle, in general, is conveyance. But in the specification the applicant has described variant modules that vary functions other than things related directly to conveyance. This expands the definition of overall functionality beyond functions directly related to conveyance to any function that a vehicle can carry out. It is impossible to say which functions are more "overall" than another. With respect to claim 40, Rado et al. discloses on lines 35-48, on column 8, that actuators can be controlled by a local module or a remote module. But even commands are determined remotely; there is still execution or a determination carried out at the local module line 45.

***Allowable Subject Matter***

4. Claims 6-10, 23-28, 37-39, and 46-47 are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose a plurality interface modules having a first data memory that stores the input status information for all the plurality of input

devices; the plurality of interface modules collects input status information from the respective local subset of the plurality of input devices and broadcasts the input status information over the communication network to each of the remaining ones of the plurality of interface modules at least once during a predetermined amount of time.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Broadhead whose telephone number is 703-308-9033. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 703-305-8233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

*BJB*

BJB

October 16, 2004

*Thomas G. Black*  
THOMAS G. BLACK  
SUPERVISORY PATENT EXAMINER  
GROUP 3600